

# Rolling Machine Setters, Operators, and Tenders

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## What They Do

Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) set up, run, and watch machines that roll steel or plastic raw materials. The machines are used to form bends, beads, and knurls, and to flatten, temper, or reduce the gauge of material. Examples of products made using this type of machine include aluminum cans, steel automobile bodies, and prefabricated metal buildings. These workers are employed in metal manufacturing, aerospace, defense, transportation, shipbuilding, and machine shop industries.

## Tasks

- ▶ Read rolling orders, blueprints, and mill schedules to determine setup specifications, work sequences, product dimensions, and installation procedures.
- ▶ Examine, inspect, and measure raw materials and finished products to verify conformance to specifications.
- ▶ Calculate draft space and roll speed for each mill stand in order to plan rolling sequences and specified dimensions and tempers.
- ▶ Select rolls, dies, roll stands, and chucks from data charts in order to form specified contours and to fabricate products.
- ▶ Install equipment such as guides, guards, gears, cooling equipment, and rolls, using hand tools.
- ▶ Position, align, and secure arbors, spindles, coils, mandrels, dies, and slitting knives.
- ▶ Fill oil cups, adjust valves, and observe gauges to control flow of metal coolants and lubricants onto workpieces.
- ▶ Manipulate controls and observe dial indicators in order to monitor, adjust, and regulate speeds of machine mechanisms.
- ▶ Monitor machine cycles and mill operation to detect jamming and to ensure that products conform to specifications.
- ▶ Adjust and correct machine setups to reduce thicknesses, reshape products, and eliminate product defects.

Detailed descriptions of this occupation may be found in the Occupational Information Network (O\*NET) at [online.onetcenter.org](http://online.onetcenter.org).

## Important Skills, Knowledge and Abilities

- ▶ Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.

## Rolling Machine Setters, Operators, and Tenders

- ▶ Operation and Control — Controlling operations of equipment or systems.
- ▶ Mathematics — Using mathematics to solve problems.
- ▶ Installation — Installing equipment, machines, wiring, or programs to meet specifications.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ Control Precision — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- ▶ Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
- ▶ Arm-Hand Steadiness — The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.

### Work Environment

Most Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) work in clean spaces that are well lit and ventilated. These workers stand much of the day and may do moderately heavy lifting. Operating powerful, high-speed machines can be dangerous if strict safety rules are not followed. Protective equipment such as safety glasses and earplugs are usually required to protect the worker from flying particles and machine noise. Many modern machines are enclosed which minimizes the exposure of workers to noise, dust, and lubricants. Most workers put in a 40-hour week, but overtime is common during periods of peak production. Since many shops have more than one shift, night and weekend work is possible.

Many Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) belong to a union such as the International Association of Machinists and Aerospace Workers; the International Union of Electronic, Electrical, Salaried Machine, and Furniture Workers; the International Brotherhood of Electrical Workers; and the United Steelworkers of America.

### California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
<b>Rolling Machine Setters, Operators, and Tenders (Metal and Plastic)</b>				
51-4023	3,400	3,800	120	\$10.18 to \$17.90

*Wages do not include self-employment.*

*Average annual openings include new jobs plus net replacements.*

*Source: [www.labormarketinfo.edd.ca.gov](http://www.labormarketinfo.edd.ca.gov), Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.*

## Rolling Machine Setters, Operators, and Tenders

### Trends

Employment of Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) is expected to grow at a slower than average rate from 2004 to 2014, although employment trends among these occupations will vary over the next several years. Employment of workers will be affected by the rate of technological implementation, the demand for the goods they produce, the effects of trade, and the reorganization of production processes. Despite these factors, many openings will become available because of an increase in retirements over the next decade. Temporary employees are being hired in greater numbers and usually get paid less than company-employed workers.

### Training/Requirements/Apprenticeships

Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) usually follow one of the following training paths:

- ▶ Community college programs or certificates
- ▶ Extensive on-the-job training

A few weeks of on-the-job training is sufficient for most workers to learn basic machine operations, but several years are required to become a highly skilled operator or setter. Community colleges and other educational institutions offer courses and certifications in operating metal and plastics machines. Programs accredited by the National Institute for Metalworking Skills (NIMS) and the Society of the Plastics Industry are listed at their respective Web sites. Some employers send promising machine tenders to operator classes and others prefer to hire workers who have completed or are currently enrolled in a training program. Many employers require a high school diploma and the ability to read, write, and speak English.

### Recommended High School Course Work

High school students interested in this kind of work should take courses in metal shop, blueprint reading, algebra, geometry, and gain a working knowledge of metal and plastic properties.

### Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at [www.labormarketinfo.edd.ca.gov](http://www.labormarketinfo.edd.ca.gov) to locate employers in your area. Search under the following industry names to get a list of private firms and their addresses:

- |   |   |
|---|---|
| ▶ All Other Plastics Product              | ▶ Ornamental and Architectural Metal Work |
| ▶ Aluminum Foundries (except Die-Casting) | ▶ Professional Employer Organizations     |
| ▶ Employment Placement Agencies           | ▶ Sheet Metal Work                        |
| ▶ Fabricated Structural Metal             | ▶ Steel Foundries (except Investment)     |
| ▶ Iron and Steel Mills                    | ▶ Temporary Help Services                 |
| ▶ Nonpackaging Plastics, Film and Sheet   | ▶ Urethane and Other Foam Product         |

## Rolling Machine Setters, Operators, and Tenders

Search these **yellow page** headings for listings of private firms:

- ▶ Foundries
- ▶ Metal Fabrication
- ▶ Ornamental Metal Work
- ▶ Plastic Fabricators
- ▶ Sheet Metal
- ▶ Steel Fabricators

### Where Can the Job Lead?

Advancement for Rolling Machine Setters, Operators, and Tenders (Metal and Plastic) usually takes the form of higher pay. There are some limited opportunities to move up to higher level positions which may be increased by becoming certified in a particular machining skill. Some set-up workers may advance to supervisory positions.

### Other Sources of Information

International Association of Machinists and Aerospace Workers  
[www.iamaw.org](http://www.iamaw.org)

National Institute for Metalworking Skills (NIMS)  
[www.nims-skills.org](http://www.nims-skills.org)

National Tooling & Machining Association (NTMA)  
[www.ntma.org](http://www.ntma.org)

Precision Machined Products Association (PMPA)  
[www.pmpa.org](http://www.pmpa.org)

Precision Metalforming Association Educational Foundation  
[www.pmaef.org](http://www.pmaef.org)

The Society of the Plastics Industry  
[www.socplas.org](http://www.socplas.org)